



Article

Relationships between Severity of Internet Gaming Disorder, Severity of Problematic Social Media Use, Sleep Quality and Psychological Distress

Hiu Yan Wong¹, Hoi Yi Mo¹, Marc N. Potenza^{2,3,4}, Mung Ni Monica Chan¹, Wai Man Lau¹, Tsz Kwan Chui¹, Amir H. Pakpour^{5,6,*} and Chung-Ying Lin^{1,*}

¹ Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hung Hom, Hong Kong; anniehiuyan@gmail.com (H.Y.W.); elainemohoiyi@gmail.com (H.Y.M.); monicachan0710@gmail.com (M.N.M.C.); sunny313971048@gmail.com (W.M.L.); chuitszkwan1996@gmail.com (T.K.C.)

² Departments of Psychiatry and Neuroscience and the Child Study Center, School of Medicine, Yale University, New Haven, CT 06511, USA; marc.potenza@yale.edu

³ Connecticut Council on Problem Gambling, Wethersfield, CT 06109, USA

⁴ Connecticut Mental Health Center, New Haven, CT 06519, USA

⁵ Social Determinants of Health Research Center, Research Institute for Prevention of Non-Communicable Diseases, Qazvin University of Medical Sciences, Qazvin 3419759811, Iran

⁶ Department of Nursing, School of Health and Welfare, Jönköping University, 55511 Jönköping, Sweden

* Correspondence: pakpour_amir@yahoo.com (A.H.P.); cylin36933@gmail.com (C.-Y.L.); Tel.: +98-283-323-9259 (A.H.P.); +852-2766-6755 (C.-Y.L.)

Received: 31 December 2019; Accepted: 10 March 2020; Published: 13 March 2020



Abstract: Internet gaming and social media use are prevalent and integral to many people's lives. However, excessive engagement in either could lead to negative health impacts. This study aimed to investigate relationships between severities of internet gaming disorder (IGD) and problematic social media use (operationalized as social media addiction; SMA) with sleep quality and psychological distress among young adults. A cross-sectional study with snowball sampling was conducted among Hong Kong university students in 2019. All participants ($n = 300$; mean (SD) age = 20.89 (1.48); 122 males (40.67%)) responded to an online survey that included Chinese versions of the Internet Gaming Disorder Scale-Short Form (IGDS9-SF), Bergen Social Media Addiction Scale (BSMAS), Pittsburgh Sleep Quality Index (PSQI), and Depression Anxiety Stress Scales (DASS-21). Multiple linear regressions demonstrated that IGDS9-SF scores demonstrated associations with psychological distress measures (standardized coefficient (β) = 0.295 for depression, 0.325 for anxiety, 0.339 for stress, all $p < 0.001$). BSMAS scores showed similar albeit numerically less robust associations ($\beta = 0.235$ for depression, $p < 0.001$; 0.219 for anxiety, $p = 0.001$; 0.262 for stress, $p < 0.001$). BSMAS scores demonstrated associations with poorer sleep quality ($\beta = 0.292$; $p < 0.001$) and IGDS9-SF scores ($\beta = 0.157$; $p = 0.024$) showed a significantly less robust association ($p = 0.01$ for comparing the two β s). These findings suggest that both severities of IGD and SMA associate with more psychological distress and poorer sleep quality, although the strengths of associations may differ.

Keywords: gaming; social media; behavior addiction; sleep quality; psychological distress